Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

Carlsbad Field Office
Operator Copy

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other	5. Lease Serial No. NMNM57261
	6. If Indian, Allottee or Tribe Name
	7. If Unit or CA/Agreement, Name and/or No.
	8. Well Name and No. HAMBONE FEDERAL COM 26H
2. Name of Operator COG OPERATING LLC Contact: MAYTE X REYES E-Mail: mreyes1@concho.com	9. API Well No. 30-015-45664-00-X1
3a. Address 600 W ILLINOIS AVENUE MIDLAND, TX 79701 3b. Phone No. (include area code) Ph: 575-748-6945	10. Field and Pool or Exploratory Area PURPLE SAGE-WOLFCAMP (GAS)
4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)* Sec 8 T26S R29E SESW 330FSL 2440FWL 32.050571 N Lat, 104.007050 W Lon	11. County or Parish, State EDDY COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original A PD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

RECEIVED

JUN 27 2019

DISTRICT II-ARTESIA O.C.D.

COG Operating LLC, respectfully requests approval for the following changes to the originally approved APD.

Surface:
Drill 26? hole to 400? above the salt ? will stop drilling if we encounter salt prior to 400?.
Set 20? 106.5# K-55 BTC casing @ 400?
Cement in one stage to surface:
Lead: 450 sx of Class C + 6% gel (13.5 ppg / 1.75 cuft/ sx)
Tail: 350 sx of Class C + 1% CaCl2 (14.8 ppg/ 1.36 cuft/sx)

SEE ATTACHED FOR CONDITIONS OF APPROVAL

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #452855 verified by the BLM Well Information System
For COG OPERATING LLC, sent to the Carlsbad
Committed to AFMSS for processing by PRISCILLA PEREZ on 02/06/2019 (19PP0972SE)

Name *(Printed/Typed)* MAYTE X REYES	Title REGULATORY ANALYST
Signature (Electronic Submission)	Date 02/01/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By Mustafa Haque	Title Petroleum Engineer Carlsbad Field Office Office	Date 02-07-2019

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

RWP 7-5-19

Additional data for EC transaction #452855 that would not fit on the form

32. Additional remarks, continued

Intermediate 1:
2M BOP System
Drill 17.5? hole to 2800?
Set 13.375? 61# J-55 BTC casing to 2200?
13.375? 72# L-80 BTC casing @ 2800?
Cement in single stage to surface:
Lead: 1400 sx of Class C (12.7 ppg / 1.98 cuft/ sx)
Tail: 400 sx of Class C (14.8 ppg/ 1.36 cuft/sx)

Intermediate 2
3M BOP System
Drill 12.25? hole to 10100?
Set 9.625? 47# HCL-80 BTC @ 10100?
Cement in one stage
Lead: 1200 sx of Halliburton TunedLight Blend (10.3 ppg / 3.48 cuft/ sx)
Tail: 300 sx of Class H (16.4 ppg / 1.08 cuft/sx)

Pilot Hole
5M BOP system
Drill 8.5? hole to 12 432ft ? Run Open Hole logs and RSWC
Cement Pilot hole back to inside 9 5/8? casing ? Solid plug
Two pilot hole plugs ? 350sx each Class H (15.6ppg / 1.15 cuft/sx) ? Cover up to 10,730ft
Kick off plug ? 450sx of Class H (17.5ppg / 0.96cuft/sx)- Cover up to 9,880ft
Will wait 24 hours before sidetracking off cement plug.

Production
5M BOP System
Drill 8.5? hole to 20917?
Set 5.5? 23# P110 BTC @ 20917?
Cement in one stage to surface
Lead: 1100 sx of 35:36:6 Class C (12.7 ppg / 1.98 cuft/ sx)
Tail: 2600 sx of Halliburton VersaCem Class H Blend (14.4 ppg / 1251 cuft/sx

Flex Hose attached.

Hydrostatic Test Certificate

ContiTech

rtificate Number	COM Order Reference	Customer Name & Address
4000	974000	Nabors Lux Finance 2 S.a.r.L. 8-10 Avenue de la Gare L-1610 LUXEMBOURG
Customer Purchase Order No:	13999606	
Project:		

Test Center Address	Accepted by COM Inspection		Accepted by Client Inspection
ContiTech Oil & Marine Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	Signed: Date:	Roger Suarez 6/27/17	

We certify that the goods detailed hereon have been inspected as described below by our Quality Management System, and to the best of our knowledge are found to conform the requirements of the above referenced purchase order as issued to ContiTech Oil & Marine Corporation.

Item	Part No.	Description	Qnty	Serial Number	Work Press.	Test Press.	Test Time (minutes)
20		RECERTIFICATION - 3" ID 10K Choke & Kill Hose x 35 ft OAL	1	62205 Assest # 66-0945	10,000 psi	15,000 psi	60

Certificate of Conformity

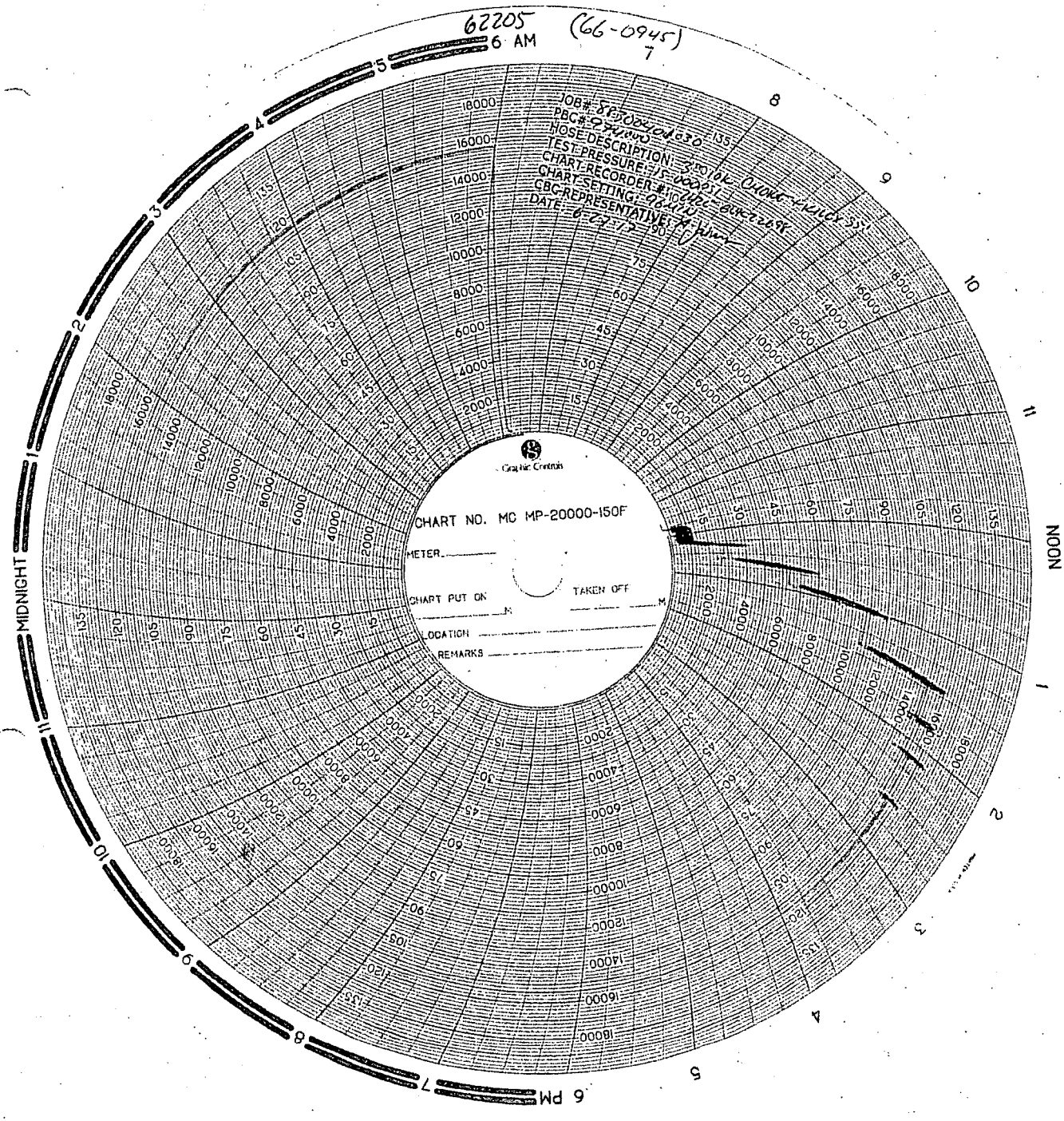
ContiTech

rtificate Number	COM Order Reference	Customer Name & Address
4000	974000	Nabors Lux Finance 2 S.a.r.L. 8-10 Avenue de la Gare L-1610 LUXEMBOURG
Customer Purchase Order No:	13999606	
Project:		

Test Center Address	Accepted by COM Inspection		Accepted by Client Inspection
ContiTech Oil & Marine Corp. 11535 Brittmoore Park Drive Houston, TX 77041 USA	Signed: Date:	Roger Suarez 6/27/17	

We certify that the items detailed below meet the requirements of the customer's Purchase Order referenced above, and are in conformance with the specifications given below.

Item	Part No.	Description	Qnty	Serial Number	Specifications
20		RECERTIFICATION - 3" ID 10K Choke & Kill Hose x 35 ft OAL	1	62205 Assest # 66-0945	ContiTech Standard


62205 (66-0945)
6 AM
NOON
6 PM
MIDNIGHT
CHART NO. MC MP-20000-150F
METER
CHART PUT ON
TAKEN OFF
LOCATION
REMARKS

Hose Inspection Report

ContiTech Oil & Marine

Customer	Customer Reference #	COM Reference #	COM Inspector	Date of Inspection
Nabors	13999606	974000	A. Jaimes	06/27/2017

Hose Manufacturer	Contitech Rubber Industrial

Hose Serial #	62205 (66-0945)	**Date of Manufacture**	12/2011
Hose I.D.	3"	**Working Pressure**	10000PSI
Hose Type	Choke and Kill	**Test Pressure**	15000PSI
Manufacturing Standard	API 16C		

Connections

End A: 4.1/16" 10Kpsi API Spec 17D Swivel Flange	**End B:** 4.1/16" 10Kpsi API Spec 17D Swivel Flange
• Dents	• No damage
Material: Carbon Steel	**Material:** Carbon Steel
Seal Face: BX155	**Seal Face:** BX155
Length Before Hydro Test: 35'	**Length After Hydro test:** 35'

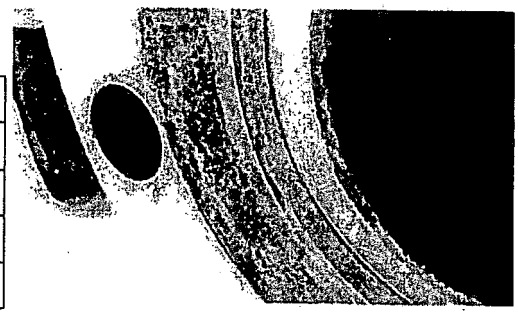
Conclusion: Hose #62205 passed the external inspection with no notable damage to the hose armor. The flange face on end A did have minor dents but did not affect the test outcome. It is advised that additional care be taken in order to avoid further damage to the flange face. Internal borescope of the hose showed no damage to the liner. Hose #62205 passed the hydrostatic pressure test by holding a pressure of 15,000PSI for 60 minutes. **Hose #62205 is suitable for continued service.**

Recommendations: In general the hose should be inspected on a regular on-going basis. The frequency and degree of the inspection should as a minimum follow these guidelines:

Visual inspection: Every 3 to 6 months (or during installation/removal)
Annual: In-situ pressure test (in addition to the 3 to 6 monthly inspections)
Initial 5 years service: Major inspection
2nd Major inspection: Following subsequent 3 year life cycle
(Detailed description of test regime available upon request, QCP 206-1)

**NOTE: There are a number of critical elements in the hose that cannot be thoroughly checked through standard inspection techniques. Away from dissecting the hose body, the best way to evaluate the condition of the hose is through review of the operating conditions recorded during the hose service life, in particular maximums and peak conditions.

External Damage Pre – Hydro test
End A has minor dents at the edge of the seal face but did
not compromise the hydrostatic pressure test. Additional
care should be take in order to avoid further damage



Issued By: Alejandro Jaimes
Date: 6/27/2017

Checked By: Gerson Mejia-Lazo
Date: 6/27/2017

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°:	682	
PURCHASER:	ContiTech Oil & Marine Corp.			P.O. N°:	4500984922	
CONTITECH RUBBER order N°:	987778	HOSE TYPE:	3" ID	Choke and Kill Hose		
HOSE SERIAL N°:	73981	NOMINAL / ACTUAL LENGTH:		13,72 m / 13,80 m		
W.P. 69,0 MPa	10000 psi	T.P: 103,5 MPa	15000 psi	Duration:	60	min.

Pressure test with water at ambient temperature

See attachment (1 page)

COUPLINGS Type	Serial N°	Quality	Heat N°
3" coupling with	8077 8083	AISI 4130	A0939Y
4 1/16" 10K API Swivel Flange end		AISI 4130	037184 85913
Hub		AISI 4130	A0939Y

Not Designed For Well Testing

API Spec 16 C 2nd Edition– FSL2

TAG NO.: 66-1486

Temperature rate: "B"

All metal parts are flawless

WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.

STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.

COUNTRY OF ORIGIN HUNGARY/EU

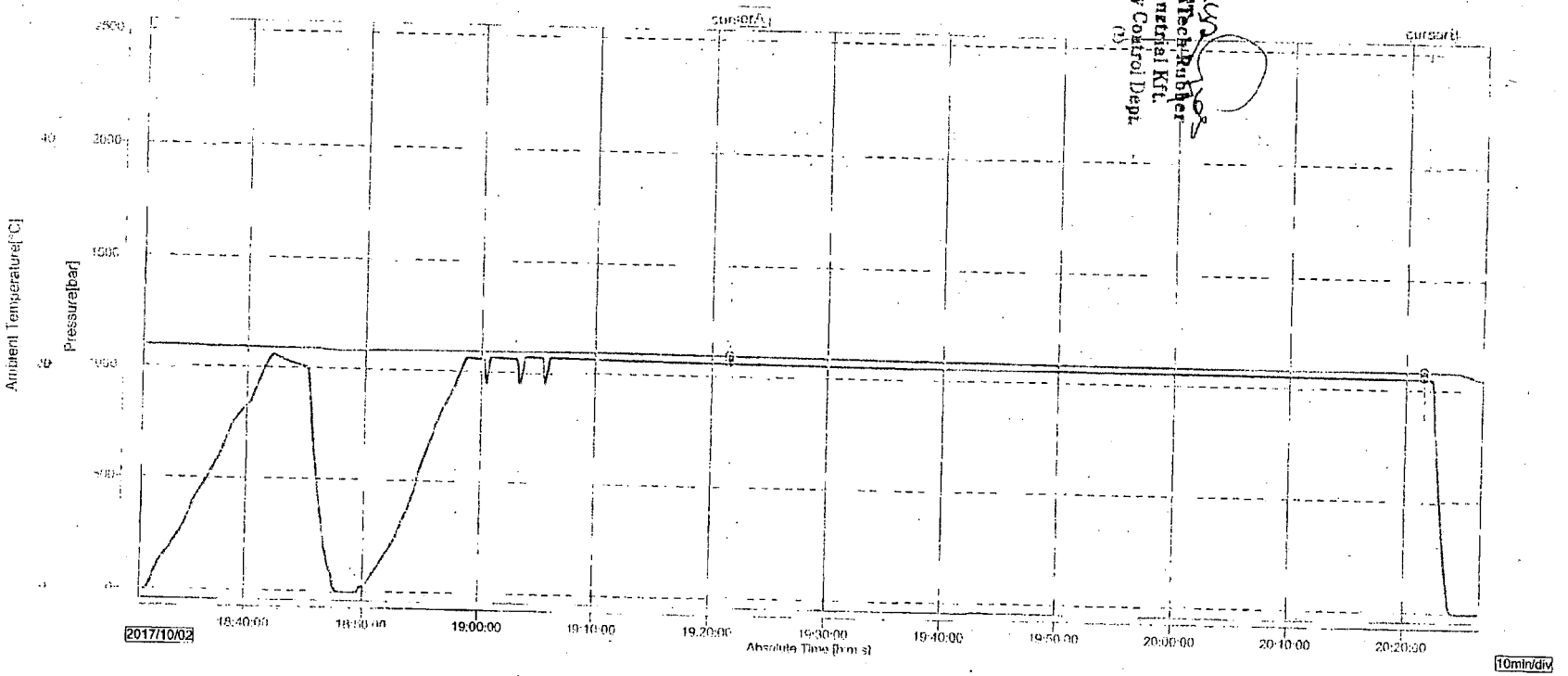
Date:	Inspector	Quality Control
03. October 2017.		ContiTech Rubber Industrial Kft. Quality Control Dept.

ATTACHMENT OF QUALITY CONTROL INSPECTION AND TEST CERTIFICATE No: 681, 682

File Name	020572_73980,73981.GEV,...,020583_73980,73981.GEV
File Message	73980,73981
Device Type	GX10
Serial No.	: S5P606399
Data Count	: 1386
Print Group	Press-Temp
Print Range	2017/10/02 18:31:10.000 - 2017/10/02 20:26:35.000
Comment	142056635

Sampling Int.	5.000 sec
Start Time	: 2017/10/02 18:31:10.000
Stop Time	: 2017/10/02 20:26:35.000

	Cursor A	Cursor B	Difference
Data No.	604	1324	720
Absolute Time	2017/10/02 19:21:30.000	2017/10/02 20:21:30.000	01:00:00.000
Tag Comment	Value A	Value B	Value B-A
Pressure[bar]	1064.15	1055.97	-8.18
Ambient Temperature[°C]	21.93	21.73	-0.20



ContiTech Rubber Industrial Kft.
Quality Control Dept.

CONTITECH RUBBER Industrial Kft.

No: QC-DB- 298 / 2017

Page: 9 / 119

Haque, Mustafa <mhaque@blm.gov>

FW: [External] EC Document Submitted Hambone Federal Com 26H

Mayte Reyes <MReyes1@concho.com> Tue, Feb 5, 2019 at 12:23 PM
To: "Haque, Mustafa (mhaque@blm.gov)" <mhaque@blm.gov>
Cc: Robert Lacy <RLacy@concho.com>

Hi Haque,

Below is the information you requested regarding the Hambone Federal Com 26H sundry. Please let us know if there is anything else you may need.

Thanks,

Mayte

From: Robert Lacy
Sent: Tuesday, February 05, 2019 1:00 PM
To: Mayte Reyes
Subject: RE: FW: [External] EC Document Submitted Hambone Federal Com 26H

Mayte,

Below is the planned mud weights for each section. We are planning to run 10M BOP to drill the pilot hole. With that, we will need 5M annular variance also.

Let me know if anything else is needed.

Surface : 8.4ppg Spud Mud

Intermediate 1 : 10.0ppg Saturated Brine

Intermediate 2 : 9.0ppg Cut Brine

Pilot: 14.0ppg Br/Poly – Sundry email showed 5M BOP system when drilling this section. We will have 10M BOP on this section. Will need to apply for the 5M Annular variance.

Production : 11.5ppg OBM

Thanks, Rob

Intermediate 1:

2M BOP System

Drill 17.5" hole to 2800'

Set 13.375" 61# J-55 BTC casing to 2200'

13.375" 72# L-80 BTC casing @ 2800'

Cement in single stage to surface:

Lead: 1400 sx of Class C (12.7 ppg / 1.98 cuft/ sx)

Tail: 400 sx of Class C (14.8 ppg/ 1.36 cuft/sx)

Intermediate 2

3M BOP System

Drill 12.25" hole to 10100'

Set 9.625" 47# HCL-80 BTC @ 10100'

Cement in one stage

Lead: 1200 sx of Halliburton TunedLight Blend (10.3 ppg / 3.48 cuft/ sx)

Tail: 300 sx of Class H (16.4 ppg / 1.08 cuft/sx)

Pilot Hole

5M BOP system

Drill 8.5" hole to 12 432ft – Run Open Hole logs and RSWC

Cement Pilot hole back to inside 9 5/8" casing – Solid plug

Two pilot hole plugs – 350sx each Class H (15.6ppg / 1.15 cuft/sx) – Cover up to 10,730ft

Kick off plug – 450sx of Class H (17.5ppg / 0.96cuft/sx)- Cover up to 9,880ft

Will wait 24 hours before sidetracking off cement plug.

Production

5M BOP System

Drill 8.5" hole to 20917'

Set 5.5" 23# P110 BTC @ 20917'

Cement in one stage to surface

Lead: 1100 sx of 35:36:6 Class C (12.7 ppg / 1.98 cuft/ sx)

Tail: 2600 sx of Halliburton VersaCem Class H Blend (14.4 ppg / 1251 cuft/sx

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From: Mayte Reyes [mailto:MReyes1@concho.com]
Sent: Tuesday, February 05, 2019 12:40 PM
To: Robert Lacy
Subject: FW: FW: [External] EC Document Submitted Hambone Federal Com 26H

FYI.

From: Haque, Mustafa [mailto:mhaque@blm.gov]
Sent: Monday, February 04, 2019 4:36 PM
To: Mayte Reyes
Subject: Re: FW: [External] EC Document Submitted Hambone Federal Com 26H

[Quoted text hidden]

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG Operating LLC
LEASE NO.:	NMNM57261
WELL NAME & NO.:	Hambone Federal Com 26H
SURFACE HOLE FOOTAGE:	330'/S & 2440'/W
BOTTOM HOLE FOOTAGE	200'/N & 2310'/E
LOCATION:	Section 8, T26S, R29E, NMPM
COUNTY:	Eddy County, New Mexico

Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	○ Low	◉ Medium	○ High
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	◉ Conventional	○ Multibowl	
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP

All previous COAs still apply, except for the following:

A. CASING

1. The **20** inch surface casing shall be set at approximately **400** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

    ❖ In **Medium Cave/Karst Areas** if cement does not circulate to surface on the first two casing strings , the cement on the 3rd casing string must come to surface.

2. The minimum required fill of cement behind the **13 3/8** inch first intermediate casing is:

- Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.**

3. The minimum required fill of cement behind the **9 5/8** inch second intermediate casing is:

    - Cement to surface. If cement does not circulate, contact the appropriate BLM office.

Pilot hole is required to have a plug at the bottom of the hole. If two plugs are set, the BLM is to be contacted (575-361-2822) prior to tag of bottom plug, which must be a minimum of 200' in length. Operator can set one plug from bottom of pilot hole to kick-off point and save the WOC time for tagging the first plug. Note plug tops on subsequent drilling report.

4. The minimum required fill of cement behind the **5 1/2** inch production casing is:

    - Cement should tie-back at least **200** feet into previous casing string. Operator shall provide method of verification.

B. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **13 3/8** intermediate casing shoe shall be **3000 (3M)** psi.

4. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9 5/8** second intermediate casing shoe shall be **5000 (5M)** psi.

5. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for to drill the pilot hole shall be **10,000 (10M)** psi. **Variance is approved to use 5M Annular which shall be tested to 5000 psi.**

MHH 02042019

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

a. Spudding well (minimum of 24 hours)
b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
c. BOPE tests (minimum of 4 hours)

☒ Chaves and Roosevelt Counties
Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
During office hours call (575) 627-0272.
After office hours call (575)

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.

b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
c. Manufacturer representative shall install the test plug for the initial BOP test.
d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time.

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. The results of the test shall be reported to the appropriate BLM office.

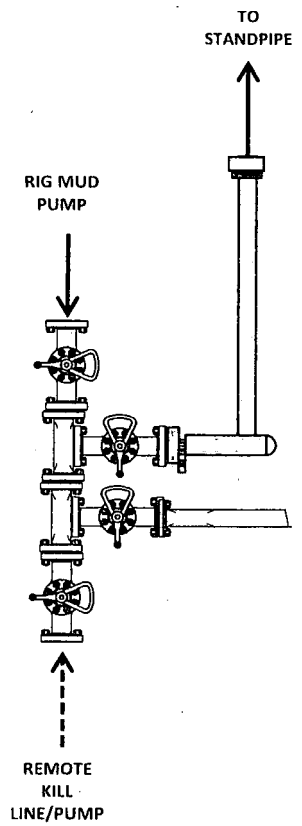
f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

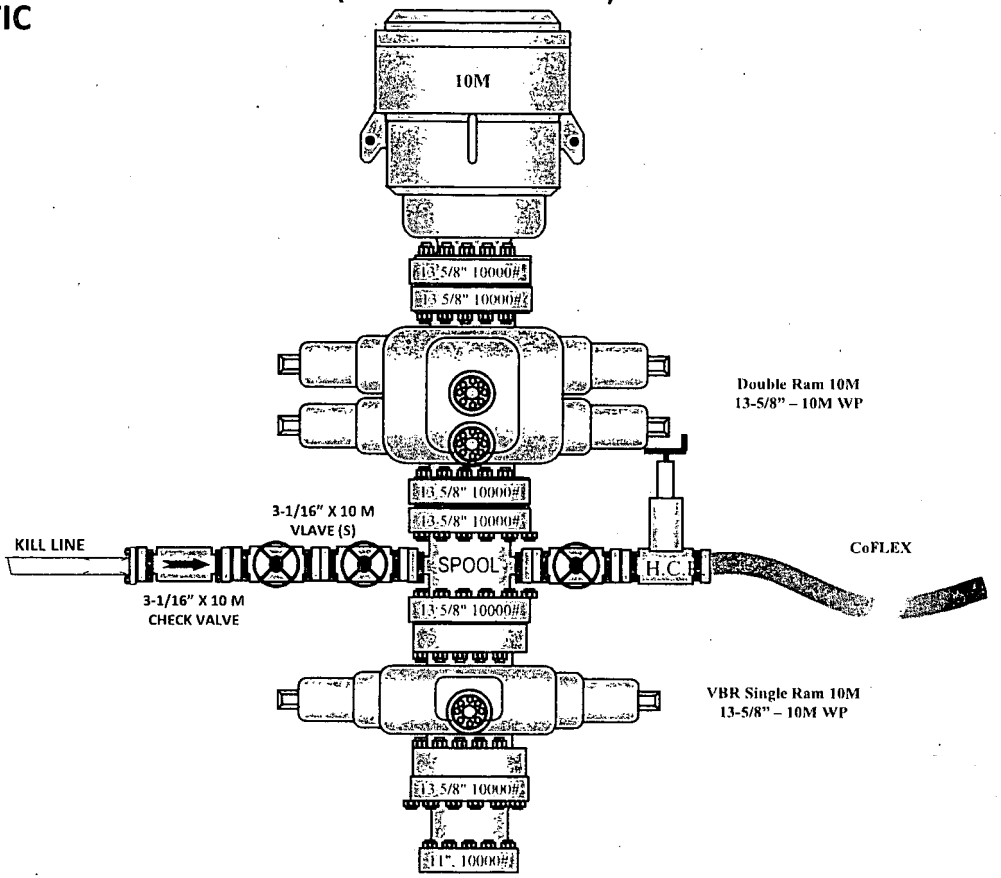
h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

10M BOP Stack

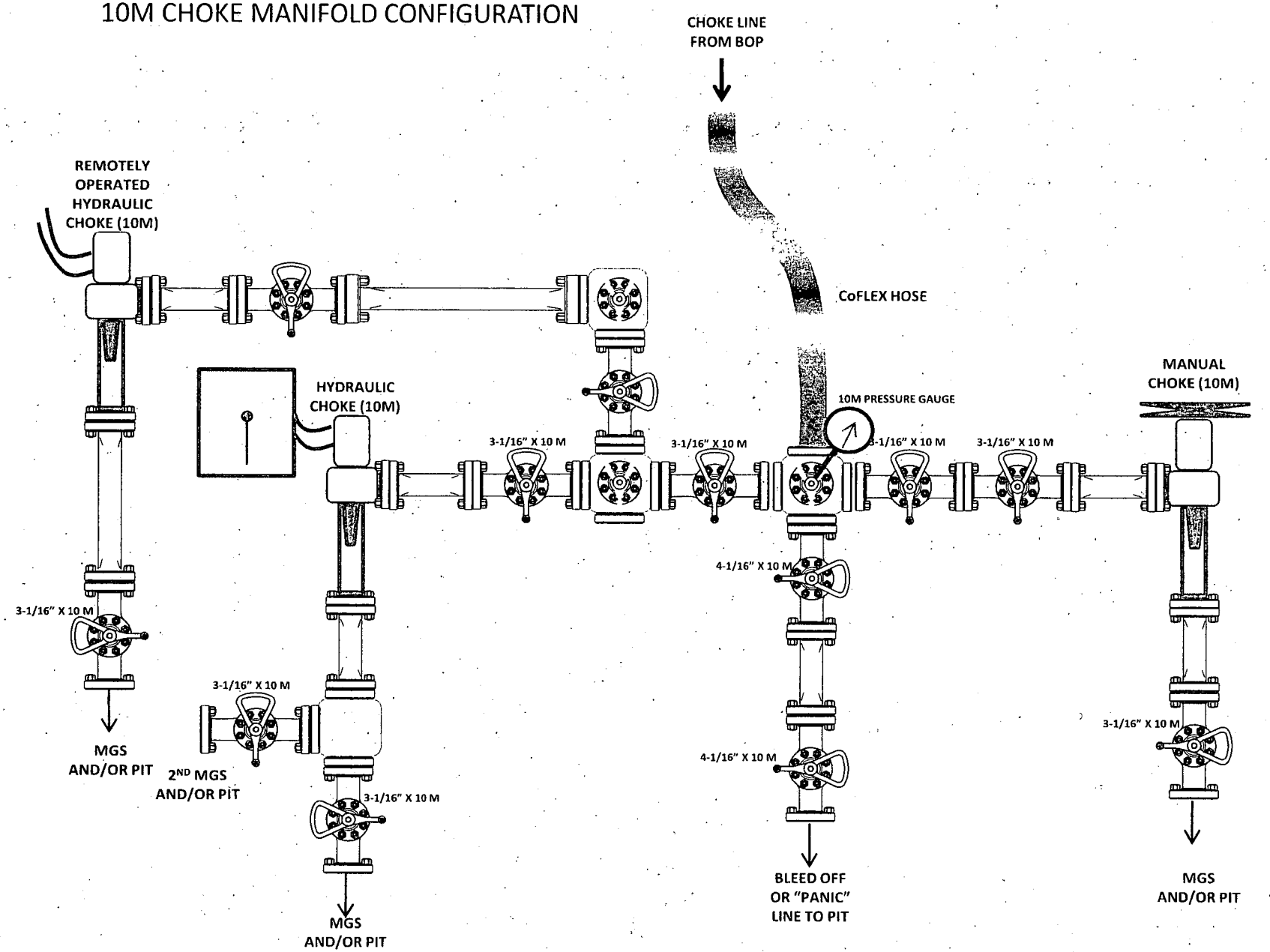
10M REMOTE KILL SCHEMATIC



10M BOP Stack
(10M Annular)



10M CHOKE MANIFOLD CONFIGURATION



1. Component and Preventer Compatibility Table

The table below covers drilling and casing of the 10M MASP portion of the well and outlines the tubular and the compatible preventers in use. Combined with the mud program, the below documents that two barriers to flow can be maintained at all times, independent of the rating of the annular preventer.

Component	OD	Preventer	RWP
Drill pipe	5"	Upper 4.5-7" VBR Lower 4.5-7" VBR	10M
HWDP	5"		
Jars	5"		
Drill collars and MWD tools	6.25-6.75"		
Mud Motor	6.75"		
Production casing	5.5"		
ALL	0-13-5/8"	Annular	5M
Open-hole	-	Blind Rams	10M

VBR = Variable Bore Ram with compatible range listed in chart.

2. Well Control and Shut-In Procedures

Well control procedures are specific to the rig equipment and the operation at the time the kick occurs. Below are minimum tasks prescribed to assure a proper shut-in while drilling, tripping, running casing, pipe out of the hole (open hole), and moving the BHA through the BOPs. The maximum pressure at which well control is transferred from the annular to another compatible ram is 2500 psi.

Drilling:

1. Sound the alarm (alert rig crew)
2. Space out the drill string
3. Shut down pumps and stop the rotary
4. Shut-in the well with the annular with HCR and choke in closed position
5. Confirm the well is shut-in
6. Notify contractor and company representatives
7. Read and record the following data
    - Time of shut-in
    - SIDPP and SICP
    - Pit gain
8. If pressure has increased to or is anticipated to increase to 2500 psi, confirm spacing and close the upper pipe rams.
9. Prepare for well kill operation.

Tripping:

1. Sound alarm (alert rig crew)
2. Stab full opening safety valve and close the valve
3. Space out the drill string
4. Shut-in the well with the annular with HCR and choke in closed position
5. Confirm shut-in
6. Notify contractor and company representatives
7. Read and record the following data:

- Time of shut-in
- SIDPP and SICP
- Pit gain

8. If pressure has increased to or is anticipated to increase to 2500 psi, confirm spacing and close the upper pipe rams.
9. Prepare for well kill operation.

Running Casing

1. Sound alarm (alert rig crew)
2. Stab crossover and valve and close the valve
3. Shut-in the well with annular with HCR and choke in closed position
4. Confirm shut-in
5. Notify contractor and company representatives
6. Read and record the following data
   - Time of shut-in
   - SIDPP and SICP
   - Pit gain
7. If pressure has increased to or is anticipated to increase to 2500 psi, confirm spacing and close the upper pipe rams.
8. Prepare for well kill operation

No Pipe in Hole (Open Hole)

1. At any point when pipe or BHA are not in BOP stack, well will be shut in with blind rams, HCR will be open and choke will be closed. If pressure increase is observed:
2. Sound alarm (alert crew)
3. Confirm shut-in
4. Notify contractor and company representatives
5. Read and record the following data
   - Time of shut-in
   - Time of pressure increase
   - SICP
6. Prepare for well kill operation

Pulling BHA through BOP Stack

1. Prior to pulling last joint/stand of drillpipe through the stack, perform a flow check. If well is flowing:
   a. Sound alarm (alert crew)
   b. Stab full opening safety valve and close the valve
   c. Space out drill string with tool joint just beneath the upper pipe ram.
   d. Shut-in the well with upper pipe ram with HCR and choke in closed position
   e. Confirm shut-in
   f. Notify contractor and company representatives
   g. Read and record the following data
      - Time of shut-in
      - SIDPP and SICP
      - Pit gain
   h. Prepare for well kill operation.

2. With BHA in the stack:
    a. If possible to pick up high enough, pull BHA clear of the stack
        i. Follow "Open Hole" procedure above
    b. If impossible to pick up high enough to pull BHA clear of the stack:
        i. Stab crossover, make up one joint/stand of drill pipe, and full opening safety valve and close
        ii. Space out drill string with tool joint just beneath the upper pipe ram.
        iii. Shut-in the well with upper pipe ram with HCR and choke in closed position
        iv. Confirm shut-in
        v. Notify contractor and company representatives
        vi. Read and record the following:
            - Time of shut-in
            - SIDPP and SICP
            - Pit gain
        vii. Prepare for well kill operation.

3. Well Control Drills

Well control drills are specific to the rig equipment, personnel and operation at the time a kick occurs. Each crew will execute one drill weekly relevant to ongoing operations, but will make a reasonable attempt to vary the type of drills. The drills will be recorded in the daily drilling log. Below are minimum tasks for respective well control drills.

Drilling/Pit:

Action	Responsible Party
Initiate Drill • Lift Flow Sensor or Pit Float to indicate a kick • Immediately record start time	Company Representative / Rig Manager
Recognition • Driller and/or Crew recognizes indicator • Driller stop drilling, pick up off bottom and spaces out drill string, stop pumps and rotary • Conduct flow check	Driller
Initiate Action • Sound alarm, notify rig crew that the well is flowing	Company Representative / Rig Manager
Reaction • Driller moves BOP remote and stands by • Crew is at their assigned stations • Time is stopped • Record time and drill type in the Drilling Report	Driller / Crew

Tripping Pit Drills (either in the hole or out of the hole)

Action	Responsible Party
Initiate Drill • Lift Flow Sensor or Pit Float to indicate a kick • Immediately record start time	Company Representative / Rig Manager
Recognition • Driller recognizes indicator • Suspends tripping operations • Conduct Flow Check	Driller
Initiate Action • Sound alarm, notify rig crew that the well is flowing	Company Representative / Rig Manager
Reaction • Position tool joint above rotary and set slips • Stab FOSV and close valve • Driller moves to BOP remote and stands by • Crew is at their assigned stations • Time is stopped • Record time and drill type in the Drilling Report	Driller / Crew

Choke

Action	Responsible Party
• Have designated choke operator on station at the choke panel • Close annular preventer • Pressure annulus up 200-300 psi • Pump slowly to bump the float and obtain SIDPP • At choke operator instruction, slowly bring pumps online to slow pump rate while holding casing pressure constant at the SICP. • Allow time for the well to stabilize. Mark and record circulating drillpipe pressure. • Measure time lag on drillpipe gauge after choke adjustments. • Hold casing pressure constant as pumps are slowed down while choke is closed. • Record time and drill type in the Drilling Report	Company Man / Rig Manager & Rig Crew